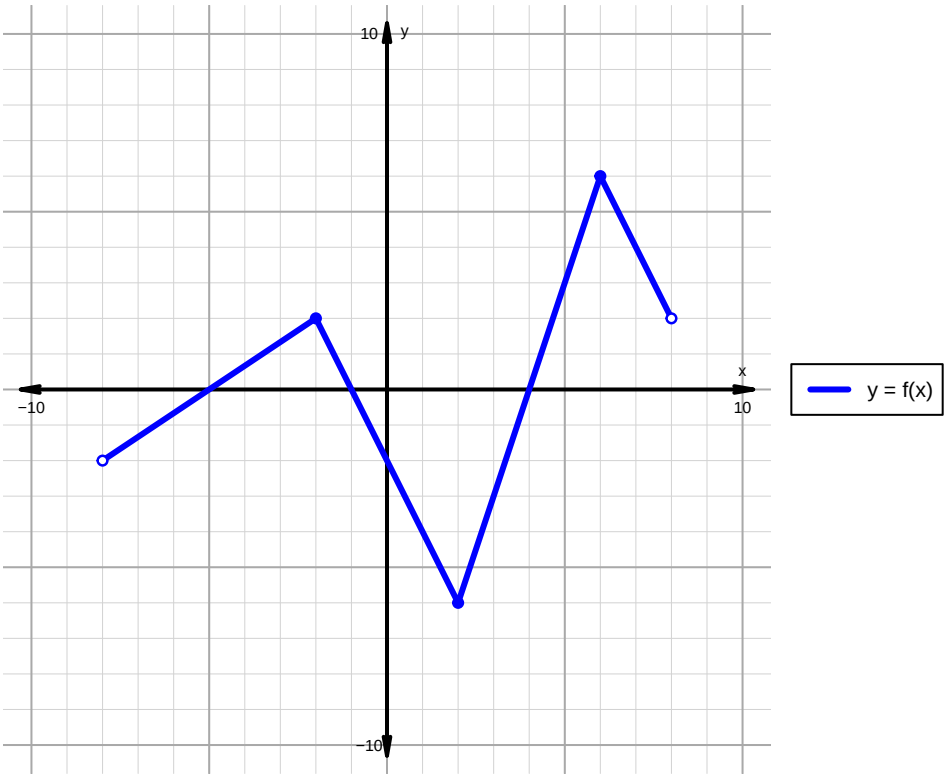
Name: Date:

Intervals, Transformations, and Slope Solution (version 62)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-5,-1)\cup(4,8)$
Negative	$(-8,-5)\cup(-1,4)$
Increasing	$(-8,-2)\cup(2,6)$
Decreasing	$(-2,2)\cup(6,8)$
Domain	$(-8,8)$
Range	$(-6,6)$

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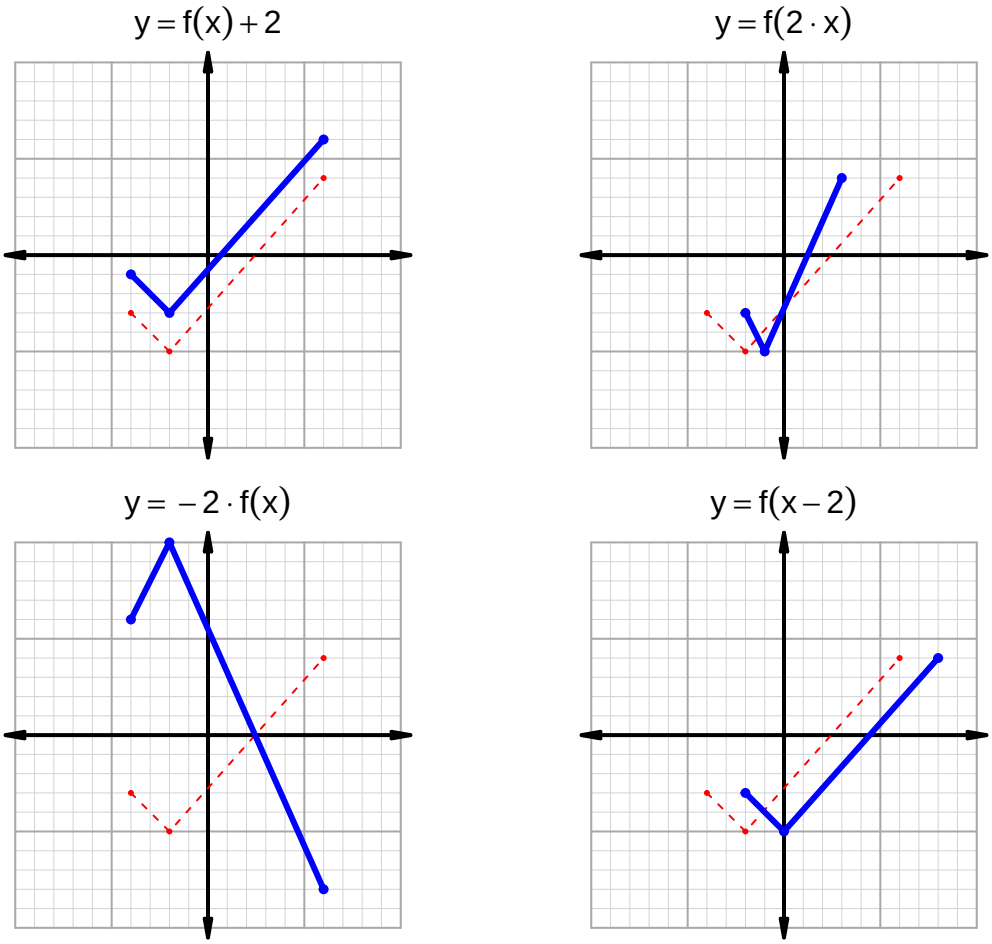
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 16$ and $x_2 = 58$. Express your answer as a reduced fraction.

x	$g(x)$
16	90
58	72
72	16
90	58

$\frac{g(58)-g(16)}{58-16} = \frac{72-90}{58-16} = \frac{-18}{42}$

The greatest common factor of -18 and 42 is 6. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-3}{7}$$